

## Brief Biography of Prof. (Dr.) Shailesh Narain Sharma,



**Prof. (Dr.) Shailesh Narain Sharma**

**Present Designation: Professor Emeritus,**

**Department of Applied Physics,**

**Delhi Technological University (DTU), Delhi-110042**

Ex Senior Principal Scientist (Scientist F) and Professor (AcSIR), Ex Head Flexible Organic Energy Devices Group, Photonic Materials Metrology Department, Advanced Materials and Devices Metrology Division, CSIR-National Physical Laboratory, New Delhi-110012

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**Research Credentials: h- index: 33; i10-index: 112; Total no. of citations: 4615**

**Google Scholar ID: <https://scholar.google.com/citations?user=iajaJq8AAAAJ&hl=en> Web of Science**

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**Background:** Currently, Dr. Shailesh Narain Sharma, has been working as an Emeritus Professor with the Department of Applied Physics, Delhi Technological University (DTU), Shahbad Daultapur, Delhi since August 14, 2024. Prior to joining DTU, he has worked as a Senior Principal Scientist in the Division of Advanced Materials and Devices Metrology at CSIR-National Physical Laboratory (NPL), New Delhi and AcSIR Professor from Dec. 1997 onwards and got superannuated in October 2023. Dr. Sharma is a distinguished researcher with a robust academic background; Graduating (B.Sc Hons. (Phys.)) from the University of Delhi (1986) and Masters (M.Sc (Phys.)) from IIT Delhi (1988), he obtained his Ph.D. from Jadavpur University in Jan. 1994 while research work was carried out at Energy Research Unit, Indian Association for the Cultivation of Science IACS, Kolkata under the mentorship of Prof. AK Barua and Prof. AK Batabayal, The Ph.D. topic being Studies of structural and optoelectrical properties of amorphous and microcrystalline silicon. He pursued post-doctoral fellowships in University of Barcelona(UOB), Spain (1996-1997) focusing on amorphous silicon, silicon carbide, boron nitride powders, under the guidance of Prof. Enric Bertran in collaboration with LPICM of Palaiseau (France) (Collaborator- Prof. M. Pere Roca i Cabbarrocas). At University of Notre Dame, Indiana, USA (2002-2003), he worked on photophysical and photochemical properties of CdSe Quantum Dots and MEH-PPV polymer under the guidance of Prof. Prashant V. Kamat.

**Research Interests:** Since joining NPL in 1997, his research portfolio spans Phase Change Materials for Solar Thermal Energy Storage, Colloidal Semiconductor Nanoparticles and Quantum Dots (InP, CdSe, CdTe, CdS, CdSeTe,  $Zn_xCd_{1-x}Se$ , PbSe); Polymers (PPV, P3HT & Polystyrene),  $TiO_2$  nanoparticles by Sol-Gel route;  $Fe_2O_3$ ,  $Fe_3O_4$ , Porous Silicon via electrochemical anodization method, Solution route processed Organic-Inorganic Hybrid materials (PPV-CdSe & P3HT-CdSe nanocomposites) & Colloidal CIGSe/CZTSe Nanoparticles (Multicomponent Chalcogenides CIG(S,Se)/CZT(S,Se), Core-Shell (CZTSe-CZTS)), Phosphors, Perovskites, and Hybrid Nano-Composites for diverse applications in Photovoltaics, Photocatalysis Biosensors, and Water Remediation. Recently, he has also worked on the development of  $TiO_2$  based hybrid nano-composites with cellulose, HBN,  $Fe_2O_3$ ,  $Fe_3O_4$  nanoparticles for antibacterial and antimicrobial applications for agricultural crops in collaboration with IARI (New Delhi).

**Research Experience, Guiding of Ph.D students & Teaching Experience in AcSIR & DTU:** With an impressive publication record of ~163 research papers in internationally reputed high impact factor journals (Average Impact factor for last 10 years ~ 4.45; Overall Impact Factor: 3.5), ~60 conference publications, and 7 book chapters and 45+ invited talks, Dr. Sharma has mentored 18 Ph.D. and 2 post-doctoral scholars, in addition to guiding 22 M.Tech/M.Sc. Project trainees. Several External and In-house Projects were undertaken as PI, Co-PI, Mentor & Team member. Serving as the AcSIR Course Coordinator since 2011 till 31<sup>st</sup> Oct. 2023 (Course: Advanced Electronic Materials & Semiconductor Devices), he taught the following topics: Semiconductor crystals, colloidal nanoparticles and quantum Dots, optical properties of nanoparticles and excitons, phase change materials, dielectrics & ferroelectrics etc. Presently at DTU, he is teaching the following courses viz. electricity and magnetism and Physics-I and laboratory practicals associated with it to students undertaking a 5 year integrated B.Sc-M.Sc program. Currently, Dr. Sharma holds noteworthy credentials, including an **h-index of 33, i10-index of 112 and a total of 4615 citations** so far.

**Awards & Honors:** From July 2016- February 2018, Dr. Sharma was entrusted with the responsibility of leading Organic Photovoltaics Group (OPV) as a DP Leader in CSIR-NPL. The OPV group comprised of nine Gr. IV scientists and three Gr. III staff. The OPV group was working on the varied aspects of Organic semiconductors, perovskites and CIGS/CZTS related stuff and being the DP leader of that group, I ensured smooth running of the daily activities related to scientific works. As a convener, successfully conducted two Organic Photovoltaics and Electronics Technology (OPET 2017 & OPET 2018) Workshops in CSIR-NPL during 18-22<sup>nd</sup> September 2017 and August 6-10, 2018 respectively; (Total no. of participants ~ 73); ECF generated ~ Rs. 8.2 Lacs. Recent awards include Fellowship of the International Association of Advanced Materials (FIAAM), the Outstanding Faculty/Best Scientist Award, IAAM Scientist Medal, and the P. R. Pisharoty Diamond Jubilee Medal and Research Intern award to student at NIMS, Japan. His editorial role in MDPI's "Crystals" in the field of Hybrid Nanocomposites highlight his impactful contributions to scientific research and dissemination.